

ABSTRACT OF THE INVENTION

A method and apparatus for forming an *in situ* stabilized high concentration borophosphosilicate glass film on a semiconductor wafer or substrate. In an embodiment, the method starts by providing the substrate into a chamber. The method continues by providing a silicon source, an oxygen source, a boron source and a phosphorous source into the chamber to form a high concentration borophosphosilicate glass layer on the substrate. The method further includes reflowing the high concentration borophosphosilicate glass layer formed on the substrate.